The Effect of OSHA Records-Check Inspections on Reported Occupational Injuries in Manufacturing Establishments

Citation

Ruser, J., & Smith, R. (1988). The effect of OSHA records-check inspections on reported occupational injuries in manufacturing establishments. *Journal of Risk and Uncertainty*, *1*(4), 415–435.

Highlights

- The study's objective was to determine whether OSHA's records-check procedure—which was introduced in 1981 in states with federal OSHA enforcement and targeted inspections based on reports of past injuries—caused manufacturing plants to underreport injuries. Although OSHA no longer operates as it did around the time of the records-check procedure's implementation, this study provides historical context for changes that were later made to the program.
- The authors used several approaches, the strongest of which compared the percentage change in lost-workday injury rates in the years when the plant's state had a records-check procedure and the years when the state did not have this procedure.
- The study found no statistically significant differences between the percentage change in reported injury rates in plants in states with the records-check procedure and plants in states without this procedure. However, plants in risky industries in records-check states reported a statistically significant 4.7 percent reduction in injury rates.
- The quality of the causal evidence presented in this study is low. This means we are not confident that any changes in reported injuries within plants in records-check states or in risky industries in records-check states could be attributed to the records-check procedure.

OSHA Enforcement Activities and Outcomes

The study examined whether OSHA's records-check procedure—which was introduced in 1981 in states with federal OSHA enforcement and targeted establishments for inspection based on reports of past injuries—caused manufacturing plants to underreport injuries. Plants were eligible for a records check if (1) the national injury rate for their industry was above the national average injury rate or (2) the state-level injury rate for their industry was above the national average. Selected plants were subject to a review of their injury records. If the review showed the plant had above-average injury rates, it received a complete on-site inspection.

The study analyzed the effect on injuries of (1) being in a records-check state (because some states that self-enforced OSHA did not use a records-check procedure) and (2) being in a risky industry— defined as an industry with above-average injury rates—in a records-check state (because these industries were most likely to be affected by the new procedure). The analysis used data from the 1970s and 1980s. Although OSHA no longer operates as it did during this period, this study provides historical context for changes that were later made to the program.

Features of the Study

The authors used several approaches to estimate the effect of the records-check procedure. The strongest of these was a model with plant-level fixed effects; this model compared the percentage change in reported lost-workday injury rates in the years when the plants' state had a records-check procedure and the years when the state did not have this procedure for (1) all plants and (2) plants in risky industries.

The authors used data from the Bureau of Labor Statistics (BLS) Annual Survey of Occupation Injuries and Illnesses; the BLS Employment and Wages, Annual Averages series; and the Chamber of Commerce of the United States (for laws on workers' compensation payments) for 3,059 manufacturing plants that had not received OSHA inspections between 1979 and 1985.

Findings

- The study found no statistically significant differences between the percentage change in reported injury rates in plants in states with the records-check procedure and plants in states without this procedure.
- Plants in risky industries in records-check states had a statistically significant 4.7 percent reduction in reported injury rates after introduction of the procedure.
- Plants in less risky industries in records-check states had a statistically significant increase in reported injury rates after introduction of the procedure.

Considerations for Interpreting the Findings

In this study, the estimated changes in injury rates within plants may reflect underlying changes in safety levels or other factors over time, rather than the effect of the records-check procedure. For example, the study found that plants in less risky industries in records-check states had a statistically significant increase in injury rates, which suggests there may be changes in injury rates over time within industries that are unrelated to the records-check procedure. The authors attributed changes in the observed injury rates to underreporting but acknowledged that they could also reflect actual changes in workplace safety.

Causal Evidence Rating

The quality of the causal evidence presented in this study is low. This means we are not confident that the changes in reported injuries within plants in records-check states or in risky industries in records-check states are attributable to the records-check procedure. To provide more convincing causal evidence that meets CLEAR criteria, the study could demonstrate that the treated group—firms in states subject to the records-check procedure—and comparison group—firms that would be subject to the procedure but are not because of their location or industry—were experiencing similar trends in injury rates before the procedure's implementation. This would give us confidence that the outcomes of the comparison group are a valid representation of what would have occurred in the treatment group in the absence of the records-check procedure.